

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/040844

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N9/10 C12N15/54 C07H5/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, EMBASE, WPI Data, Sequence Search, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BOEGGEMAN ELIZABETH ET AL: "Mutation Met344His in bovine betal,4-galactosyltransferase-1 broadens its primary metal ion specificity." GLYCOBIOLOGY, vol. 13, no. 11, November 2003 (2003-11), page 869, XP002323109 & 8TH ANNUAL CONFERENCE OF THE SOCIETY FOR GLYCOBIOLOGY; SAN DIEGO, CALIFORNIA, USA; DECEMBER 03-06, 2003 ISSN: 0959-6658	1-4,7, 52-54
Y	abstract	5,6, 22-42, 61-69
	----- -/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

4 April 2005

Date of mailing of the international search report

21/04/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Bilang, J

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/040844

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>RAMAKRISHNAN BOOPATHY ET AL: "alpha-Lactalbumin (LA) stimulates milk beta-1,4-galactosyltransferase I (beta4Gal-T1) to transfer glucose from UDP-glucose to N-acetylglucosamine. Crystal structure of beta4Gal-T1cndotLA complex with UDP-Glc" JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 276, no. 40, 5 October 2001 (2001-10-05), pages 37665-37671, XP002323110 ISSN: 0021-9258 the whole document</p>	<p>5,6,26, 27,33, 34,40,41</p>
Y	<p>RAMAKRISHNAN BOOPATHY ET AL: "Structure-based design of beta1,4-galactosyltransferase I (beta4Gal-T1) with equally efficient N-acetylgalactosaminyltransferase activity. Point mutation broadens beta4Gal-T1 donor specificity" JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 277, no. 23, 7 June 2002 (2002-06-07), pages 20833-20839, XP002323111 ISSN: 0021-9258 the whole document</p>	<p>22-42, 61-69</p>
P,Y	<p>WO 2004/063344 A (NATIONAL INSTITUTES OF HEALTH; QASBA, PRADMAN; RAMAKRISHNAN, BOOPATHY) 29 July 2004 (2004-07-29) the whole document</p>	<p>8-51, 55-95</p>
P,X	<p>RAMAKRISHNAN BOOPATHY ET AL: "Effect of the Met344His mutation on the conformational dynamics of bovine beta-1,4-galactosyltransferase: crystal structure of the Met344His mutant in complex with chitobiose." BIOCHEMISTRY. 5 OCT 2004, vol. 43, no. 39, 5 October 2004 (2004-10-05), pages 12513-12522, XP002323112 ISSN: 0006-2960 the whole document</p>	<p>1-4,7, 52-54</p>
P,Y	<p>the whole document</p>	<p>8-51, 55-95</p>

INTERNATIONAL SEARCH REPORT
Information on patent family members

International Application No
PCT/US2004/040844

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
---	---------------------	----------------------------	---------------------

WO 2004063344 A	29-07-2004	WO 2004063344 A2	29-07-2004
-----------------	------------	------------------	------------